CLAIMS

1) A method for gradually deforming an initial realization formed from measurements or observations and defining the distribution of a set of objects in a zone of a heterogeneous medium such as a geologic structure, generated by simulation of an object type stochastic model, the objects being distributed in the zone according to a Poisson point process in form of figurative points with a point density $\lambda(x)$ varying according to their position (x) in the zone, characterized in that it comprises :

- generating a realization of a uniform random vector according to which the position of each object is defined while respecting density $\lambda(x)$, and

- gradually modifying the uniform random vector according to a gradual deformation procedure, so as to obtain gradual migration of each object and consequently gradual change in the distribution of the objects in the zone, until a final realization best adjusted to parameters relative to the structure of the medium, such as hydrodynamic parameters, is obtained, which gives a realistic representation of the configuration of the objects in the modelled heterogeneous medium.

2) A method as claimed in claim 1, characterized in that migration of the figurative points representing objects in a subdomain of the zone is limited by imposing a zero point density in the complementary part of the subdomain.

3) A method as claimed in claim 1 or 2, characterized in that one gradually changes from a realization containing a first set of N_1 points to a realization containing a second set of N_2 points by constructing a chain $N(t)$ of Poisson numbers between the two numbers N_1 and N_2 using the gradual deformation procedure.

4) A method as claimed in any one of claims 1 to 3, characterized in that the size, the shape and the orientation of an object are gradually modified during its migration using the gradual deformation procedure.

5) A method as claimed in any one of claims 1 to 4, characterized in that point density $\lambda(x)$ is gradually adjusted using the gradual deformation procedure.